



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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City of Chicopee
17 Springfield Street
Chicopee, MA 01013
Attention: Karen Betournay, Esq., City Solicitor

SEP 25 2012

RE: Chicopee-DSWM-12-061-025
Beneficial Use Determination (BUD)
Painted Brick Rubble as Fill/Landfill Use
Permit Approval
Former Facemate Facility
5 West Main St., Chicopee
BWPSW41
Transmittal #X250066

BUD Permit Approval

Dear Ms. Betournay:

On July 19, 2012, the Massachusetts Department of Environmental Protection (the MassDEP) received a Beneficial Use Determination ("BUD") permit application to utilize crushed, painted brick rubble as fill at the former Facemate facility at 5 West Main St. in Chicopee, MA (the Facility), or as internal road-building material at the Chicopee Landfill in Chicopee, MA. The BUD permit application (the application) was prepared on behalf of the property owner, the City of Chicopee (the City) by their consultant, Tighe & Bond Engineers (T&B) of Westfield, MA. The BUD application was prepared by Marc J. Richards of T&B, and the BUD application was signed by Karen Betournay, Esq., City Solicitor. As required at 310 CMR 19.060(5), a copy of the BUD application was also provided by T&B to the Chicopee Health Department on July 19, 2012. Department personnel inspected the site and proposed BUD fill area on August 2, 2012. On September 10 & 24, 2012, MassDEP received additional supporting information concerning the BUD application from BETA Group, Inc. (BETA), submitted on behalf of the City.

The proposal to utilize the crushed, painted brick rubble as fill at the Facemate site or internal road-building material at the landfill was submitted to MassDEP as a combination Category 2 – Regulated Systems and Category 3 – Restricted Use BUD application, according to the regulations at 310 CMR 19.060(16) and the MassDEP's Draft Interim Guidance Document for Beneficial Use Determination Regulation ("the Draft BUD Guidance"), dated March 18, 2004.

Proposed BUD Permit Application

The Facemate facility (the facility) is a 20-acre site located between West Main Street and the Chicopee River, used from the 1800s to 2003 for textile manufacturing. The site consisted of a number of large mill buildings, primarily of brick construction, separated from the river by a flood-control dike/wall. All of the site buildings have now been demolished.

The subject of the BUD application is approximately 12,000 to 15,000 cubic yards (cy) of painted brick rubble, generated from the demolition of Buildings 1,3,5,8 & 12, which is proposed to be used as backfill in the Building 1 and Building 5 footprints, beneath a paved parking lot for the proposed new Chicopee Senior Center. All solid wastes will be removed from the painted brick rubble, and the rubble will be crushed to produce a 3-inch diameter minus size fill material ("the crushed painted rubble"). The crushed painted rubble will be placed in 12-inch compacted lifts within the footprint of Building 5, proposed to be a minimum of 1 foot above seasonal high groundwater level. The foundation and floor of Building 5 will be demolished, crushed and reused/removed prior to filling with the crushed rubble. A geotextile marker fabric will be placed at the bottom and top of the crushed painted rubble. A minimum of 2 feet of clean backfill (crushed, clean brick rubble or clean soil) is proposed to be placed above the crushed painted rubble, and an asphalt parking lot (of unspecified thickness) is anticipated to be built over the BUD fill area in the future. T&B states that the proposed clean backfill/asphalt cover of the BUD fill area defines the crushed painted rubble usage as an S-2/S-3 soil classification.

Crushed painted rubble which does not meet MassDEP's BUD standards for use on-site as fill material is proposed to be removed off-site for use as interior road-building material at the Chicopee Landfill. Another 3,500 cy of uncoated (clean) crushed brick and concrete from the demolition of the facility buildings will be used in other areas on-site at the Facility as backfill.

The Facemate site is located in the City's "Mill Conversion and Commercial Center Overlay District". The site is not located within a Potentially Productive Aquifer, Zone II or Interim Wellhead Protection Area of a public water supply, and the site and surrounding area are serviced by municipal water and sewer lines. There are no Areas of Critical Environment Concern (ACECs), Sole Source Aquifers or Natural Heritage and Endangered Species (NHESP) resource areas within 500 feet of the site. The depth to groundwater at the site is 12 to 20 feet below grade near West Main Street, and 5 to 10 feet below grade near the flood control dike. T&B states that the proposed BUD fill area is in a GW-3 groundwater classification area.

Prior to demolition, asbestos surveys and surveys of potential oil and hazardous materials (OHM) were completed for all site buildings by Smith & Wessel and Weston & Sampson. All asbestos-containing materials (ACM) and OHM were removed from the buildings according to these surveys, by the City's demolition contractor, McConnell Enterprises, Inc. (McConnell), and the buildings were then demolished. Scrap metals were removed during demolition for off-site recycling, wood flooring and beams were removed for recycling, and other solid waste materials were removed for off-site disposal. Prior to the demolition of Building 1, windows with caulking containing polychlorinated biphenyls (PCBs) over 50 milligrams/kilogram (mg/kg) were removed and properly disposed off-site as PCB bulk product waste. Approximately 11 tons of loose and flaking paint was already removed from painted rubble at the Facility and shipped off-site for

proper disposal, remaining loose and flaking paint will also be removed from painted brick rubble prior to crushing.

On February 2, 2012, T&B collected five composite samples of the materials of the Facility buildings, as follows:

- Two composite core samples of painted brick were collected from the interior walls of Building 1;
- One composite core sample of painted brick was collected from the interior and exterior walls of Building 12;
- One composite core sample of unpainted brick was collected from the exterior wall of Building 1; and
- One composite sample of paint chips was collected from the exterior walls of Buildings 1 and 12.

The composite core samples were obtained by boring with hand tools approximately 3 inches into the brick walls and preparing mass-balance samples. All samples (core samples and paint chips) were analyzed for RCRA 8 metals, and the three coated core samples were also analyzed for PCBs.

The application compared the average values of sample analyses to the S-3, GW-3 BUD standards outlined in the Draft BUD Guidance. The appropriate BUD standards for on-site fill usage are actually the BUD standards as outlined in MassDEP's January 10, 2011 BUD permit for the Mastex site in Holyoke, MA (attached as Table 1). The results of the analyses of the samples showed the following:

- The average painted mass-balance samples for Building 1 were below the Table 1 BUD standards except for: barium at 2,350 milligrams/kilogram (mg/kg) vs. the BUD standard of 1,000 mg/kg; chromium at 58 mg/kg vs. the BUD standard of 30 mg/kg (for total chromium); and lead at 510 mg/kg vs. the BUD standard of 300 mg/kg ;
- The average painted mass-balance samples for Building 1 were non-detectable (ND) for PCBs;
- The unpainted mass-balance sample from Building 1 was well below all Table 1 BUD standards;
- The average painted mass-balance sample for Building 12 was below the Table 1 BUD standards except for: lead at 3,300 mg/kg vs. the BUD standard of 300 mg/kg ; and
- The paint chip samples showed elevated levels of RCRA 8 metals (lead at 28,000 mg/kg), and ND to detectable levels of PCBs.

T&B proposes to stockpile the crushed painted rubble and to sample it at a frequency of 1 sample per 500 cubic yards. T&B states that actual, composite samples of crushed painted brick are expected to have significantly lower levels of all metals than the core sample analyses, as the partial cores do not reflect the full thickness of clean brick material in the thick walls of the buildings. T&B states that only crushed painted rubble material which meets the MassDEP's BUD permit criteria will be used as fill material at the site under the BUD permit. T&B states that the estimated 300 cubic yards of crushed painted rubble from Building 12 will be stockpiled and sampled separately from the remaining crushed painted rubble.

During demolition, crushing and filling operations, dust will be controlled with water sprays, and water runoff from the rubble piles will be controlled by erosion control measures. BETA states that the crushed rubble at the base of each rubble pile will be separately sampled (due to potentially higher percentages of fines at the base of the piles), and utilized under the BUD separately, if needed.

BETA proposes that, where BUD materials are placed within areas also covered by an Activity & Use Limitation (AUL) under MassDEP's Bureau of Waste Site Cleanup (BWSC) regulations, that a Solid Waste Deed Notification is not required for those areas, and that the provisions of the AUL will apply. BETA proposes that, if additional BUD fill areas on-site are needed beyond the Buildings 1 & 5 footprints, that MassDEP would be notified and BUD material placement in those areas would follow the same conditions as in the BUD permit. BETA submitted a proposal, including a plan and cross-section, to install a perimeter groundwater drain in the Buildings 1 & 5 areas, to drain periodic perched groundwater and reduce contact with the BUD fill materials there. The drain will be installed along the entire upgradient perimeter of the building footprints, and will drain by gravity to a manhole on the existing Army Corps of Engineers interceptor drain at the site, which discharges stormwater to the permitted stormwater pumping station at the facility. The perimeter drain will consist of a 6-inch diameter, Schedule 40 perforated PVC pipe, surrounded by 1-inch crushed stone, with the top of the drain pipe set at least 2 feet below the base of BUD fill materials. A geotextile fabric will be wrapped around the perimeter drain pipe to reduce infiltration by fines.

MASSDEP DETERMINATIONS

The MassDEP has reviewed the proposed BUD application to reuse crushed, painted brick rubble as either fill at the former Facemate facility, or as internal road-building material at the Chicopee Landfill, in accordance with Massachusetts General Laws Chapter 111, Section 150A, the Massachusetts Solid Waste Regulations 310 CMR 16.00 & 19.000, MassDEP's Draft Interim Guidance Document for Beneficial Use Determination Regulation ("the Draft BUD Guidance"), dated March 18, 2004, and other statutes and regulations as specified. The MassDEP hereby issues this BUD permit, subject to the conditions and requirements outlined below.

General Permit Conditions

1. The subject crushed, painted brick rubble (the crushed painted rubble) is not considered a solid waste, only when used in accordance with the conditions of this permit. If the conditions of this permit are not met, the crushed painted rubble is considered a solid waste, and must be disposed of at a permitted, solid waste disposal facility. As proposed, all painted brick rubble shall be crushed to less than 3 inches in diameter for use in this BUD.
2. The MassDEP has determined that the requirement at 310 CMR 19.060(3), i.e. that the MassDEP shall accept comments from the City of Chicopee Health Department regarding the BUD permit application for a period of at least 21 days from the date that the application was submitted to the City, has been fulfilled. A copy of the application was submitted to the Health Department on July 19, 2012 and the

MassDEP has received no comments on the application from the Health Department.

3. Other residual materials (i.e. solid wastes) shall not be used as either internal road-building material at the Landfill or as fill at the Facility in this BUD. All solid waste and scrap materials (i.e. wood, metal, plastics, etc.) shall be removed from the painted brick rubble prior to crushing, and shall be disposed or recycled properly off-site at permitted solid waste disposal or recycling facilities.
4. Flakings and loose coatings shall be removed from the painted brick rubble prior to crushing, as appropriate and feasible. The resulting coating debris shall be properly handled and disposed offsite in accordance with applicable regulatory requirements.
5. No transfer of this permit shall be permitted except in accordance with the MassDEP's regulations at 310 CMR 19.044.
6. The MassDEP reserves the right to modify or rescind this approval at any time, should the conditions of this approval not be met, should nuisance conditions be created, or should the MassDEP otherwise determine that the usage of the BUD materials poses a threat to public health, safety or the environment. The MassDEP reserves the right to restrict, modify or rescind this BUD permit approval based on its review of the results of analytical data required in the BUD.
7. The MassDEP and its agents and employees shall have the right to enter upon the Facility or Landfill at reasonable times and with reasonable notice, to inspect the BUD materials and to otherwise monitor compliance with this Permit and other MassDEP environmental laws and regulations. This right of entry and inspection shall be in addition to the MassDEP's access authorities and rights under applicable federal and states laws and regulations, as well as any permits or other agreements between the Permittee and the MassDEP.

Use of Crushed Rubble at Facemate Facility as Fill Material

8. The proposed use of the crushed painted rubble as fill within the area designated on Figure 3 of the application, within the foundation holes of Buildings 1 & 5 (the BUD Fill Areas") at the former Facemate facility at 5 West Main Street in Chicopee (the "Facility") is **approved as a Category 3 - Restricted BUD permit** in accordance with MassDEP's regulations at 310 CMR 19.060, as long as the use meets the conditions of this BUD permit. The use of unregulated materials (i.e. clean, unpainted, crushed asphalt, brick and concrete rubble, and clean fill) at the Facility is not restricted by this permit.
9. As proposed, if additional BUD fill areas at the Facility are needed beyond the Buildings 1 & 5 footprints, MassDEP shall be notified in writing at least 15 days prior to filling of these areas, and BUD material placement in those areas shall follow the same conditions as in the BUD permit, including Deed Notification or

AUL requirements and Completion Report requirements. MassDEP reserves the right to restrict, modify or deny approval for these other potential BUD fill areas at the Facility, based on available information.

10. All appropriate measures shall be taken during demolition and crushing activities to mitigate or eliminate the creation of dusts at the Facility, in accordance with the regulations at 310 CMR 16.05(3)(e) and 310 CMR 7.00. As outlined at 310 CMR 19.060 (12)(c), "Any proposed processing and beneficial use shall not cause an adverse impact or significant risk to public health, safety or the environment, including, but not limited to, nuisance conditions." Crushing of rubble shall only occur during normal business hours, which shall be Monday through Friday, 7:00 AM through 5:00 PM.
11. The perimeter groundwater drain shall be installed at the Buildings 1 & 5 footprints as proposed, and there shall be a minimum 2-foot separation between the base of all crushed painted rubble and the groundwater table elevation.
12. All crushed, painted rubble shall be sampled on a minimum frequency of one composite sample per 500 cubic yards of crushed rubble, with a minimum of 4 samples per composite, representing all gradations of the crushed rubble, including fines. The composite samples shall be analyzed at a minimum for the metals outlined in **Table 1** of this permit. If damp-proof coatings (i.e., coatings designed to inhibit water infiltration, including tar-based coatings) are present on rubble, the rubble samples shall also be analyzed for PCBs by EPA Method 8082 and for polyaromatic hydrocarbons (PAHs) by EPA Method 8270 (or the MaDEP EPH method with 17 PAH target analytes). All crushed, painted brick rubble used as fill at the Facility shall meet the BUD reuse standards outlined in **Table 1** of this permit. Any crushed painted rubble which does not meet the standards outlined in this permit shall be removed from the site for proper, off-site reuse or disposal at a permitted solid waste disposal facility.
13. USEPA Toxicity Characteristic Leaching Procedure (TCLP) testing of the crushed, painted rubble shall be performed for any samples of crushed rubble if the results of analyses for total contaminant levels exceed 20 times the respective TCLP standards.
14. The groundwater discharge of the proposed perimeter drain at the Buildings 1 & 5 footprints shall be sampled quarterly during the first year following BUD material placement, and analyzed for dissolved RCRA 8 metals. The results of such analyses shall be submitted to MassDEP within 15 days of the end of each calendar quarter.
15. A minimum thickness of 3 feet of clean fill material, or a 2 foot minimum cover, (consisting of clean fill material and a minimum thickness of 3 inches of asphalt), shall be placed over all of the crushed, painted rubble used as fill in the BUD Fill Area(s).

16. For any BUD fill areas which are not covered by an AUL, a notification shall be recorded in the Hampden County Registry of Deeds in accordance with the provisions of MGL c. 111, sec. 150A, 310 CMR 19.000, relative to these BUD fill area(s). The deed notification shall specifically contain the following:
 - A. Identification of record owners of the property;
 - B. A description of the BUD Fill Area (i.e., the area containing painted crushed rubble as fill) on the property, by metes and bounds and by reference to an appropriate map or plan to be recorded therewith, signed by a Massachusetts-registered professional engineer or land surveyor, depicting:
 - a. the boundaries of the BUD Fill Area;
 - b. A cross-section depicting the type and extent of the fill material and soil cover in the BUD Fill Area; and
 - c. A description of the nature and duration of post-closure maintenance for the BUD Fill Area.
 - C. Reference to the MassDEP file number (Solid Waste File #061-025) for identifying the BUD file; and
 - D. The deed notification shall contain the following statement "The premises described herein as the BUD Fill Area are subject to the provisions of MGL c. 111, sec. 150A, 310 CMR 19.000, and a Beneficial Use Determination on file with the Department of Environmental Protection (Solid Waste File #137-027) for the use of painted crushed brick rubble as fill. Subsurface activities (i.e. excavation, soil borings, well installation) shall not be performed within the BUD Fill area without prior written approval of the Massachusetts Department of Environmental Protection".
17. Within 60 days of completion of the BUD permit fill activity, the City shall submit to the MassDEP a completion report documenting that the BUD permit was completed as proposed and approved, including surveyed as-built maps showing the location of all crushed painted rubble used as fill at the Facility, and which shall include documentation that either an AUL or deed notification was completed as required in Condition 16.
18. Post-closure requirements for the BUD Fill Area(s) are as follows: there shall be no disturbance of the clean fill/asphalt cover material, excavation of the BUD Fill Area(s), or any other invasive procedures in the BUD Fill Area(s) (i.e soil borings, well installation, building construction, etc.) without prior written approval from the MassDEP (unless specifically allowed in an AUL). Post-closure maintenance shall be performed for the BUD Fill Area(s) as needed, including maintenance of the asphalt parking lot and clean fill cover, as applicable. Any erosion of the asphalt/clean fill cover layer shall be immediately repaired.
19. The City is responsible for obtaining (and complying with) any other local, state or federal permits which may be necessary for demolition and remedial activities at the Facility, including any permits required by the City, MassDEP, or other state or federal agencies.

Use of Crushed Painted Rubble as Internal Road-Building Material at the Landfill

20. The proposed use of the crushed painted rubble from the former Facemate facility at 5 West Main Street in Chicopee (the "Facility") as internal road-building material at the Chicopee Landfill (the "Landfill") **is approved as a Category 2 Regulated Systems BUD permit** in accordance with MassDEP's regulations at 310 CMR 19.060, as long as the use meets the conditions of this BUD permit.
21. The total amount of crushed painted rubble from the Facility used at the Landfill as internal road-building material shall not exceed 5,000 tons.
22. All crushed, painted rubble shall be sampled on a minimum frequency of one composite sample per 500 cubic yards of crushed rubble, and shall be analyzed at a minimum for the metals outlined in **Table 2** of this permit. If damp-proof coatings (i.e., coatings designed to inhibit water infiltration, including tar-based coatings) are present on rubble, the rubble samples shall also be analyzed for PCBs by EPA Method 8082 and for PAHs by EPA Method 8270 (or the MaDEP EPH method with 17 PAH target analytes). All crushed, painted brick rubble used as internal road-building material at the landfill shall meet the BUD reuse standards outlined in **Table 2** of this permit.
23. USEPA Toxicity Characteristic Leaching Procedure (TCLP) testing of the crushed, painted rubble shall be performed for any samples of crushed rubble used as internal road-building material at the Landfill if the results of analyses for total contaminant levels exceed 20 times the respective TCLP standards.
24. The use of the crushed painted rubble as internal road-building at the Landfill shall comply with the applicable requirements of MassDEP's "Draft Interim Guidance Document for Beneficial Use Determination Regulations", dated March 18, 2004 (the Draft BUD Guidance). Crushed painted rubble shall not be used as internal road-building material within 200 feet of the entrance/exit of the access road at the Landfill perimeter.
25. The acceptance and use of the crushed painted rubble as internal road-building at the Landfill shall not create any nuisance dusts at the landfills. The landfill operator is responsible to take all necessary actions to mitigate or eliminate such conditions if they do occur, including the suspension of acceptance and/or usage of the crushed painted rubble, if needed.
26. MassDEP reserves the right to suspend, modify or forbid the acceptance or usage of the crushed painted rubble as internal road-building at the Landfill should there be nuisance dust conditions, inadequacy of material performance, threats to public health, safety or the environment, or should the results of sampling and analysis exceed the applicable acceptance criteria outlined at Condition 21.

Right to Appeal: Pursuant to 310 CMR 19.037(5), any person aggrieved by the issuance of this decision, except as provided for under 310 CMR 19.037(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, s. 150A and c.30A not later than thirty [30] days following notice of this decision.

Notice of Appeal: Any aggrieved person intending to appeal the decision to the superior court shall provide notice to the MassDEP of said intention to commence such action. Said Notice of Intention shall include the MassDEP File Number (12-061-025) and shall identify with particularity the issues and reason(s) why it is believed the approval decision was not proper. Such notice shall be provided to the Office of General Counsel of the MassDEP and the Regional Director for the regional office that made the decision.


The appropriate addresses to which to send such notices are:

General Counsel
Department of Environmental Protection
One Winter Street
Boston, 02108
&
Regional Director
Department of Environmental Protection
436 Dwight Street - 5th Floor
Springfield, MA 01103

No allegation shall be made in any judicial appeal of this decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in those regulations, provided that matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the public health or environmental impact of the permitted activity.

This Determination pertains only to the solid waste management aspect of the proposal and does not negate the responsibility of the owners or operators to comply with any other applicable state, local, or federal laws or regulations now or in the future. If you have any questions concerning this matter, please contact Larry Hanson of this office, at #413-755-2287, or the undersigned at #413-755-2212.

Sincerely,



Daniel Hall
Section Chief, Solid Waste

Cc: City of Chicopee – Health Dept., DPW, Planning Dept.
Tighe & Bond – Marc Richards
Beta Group – Alan Hanscomb

TABLE 1

Applicable BUD Reuse Standards
Use of Crushed Painted Brick Rubble as Fill at Facemate Facility

ANALYTE	<u>STANDARD (mg/kg)</u>
Antimony	20
Arsenic	20
Barium	1000
Beryllium	100
Cadmium	2
Chromium (III)	1000
Chromium (VI) or Total	30
Lead	300
Mercury	20
Nickel	20
Selenium	400
Silver	100
Thallium	8
Vanadium	600
Zinc	2500
PAHs – Total	100
PCBs	2

Notes:

1. Standards are the relevant 310 CMR 40.0000 MCP Method 1, S-1, GW-1 standards.
2. If only total chromium data available, all total chromium assumed to be chromium VI.
3. PAH analyses by EPA Method 8270 or MADEP EPH Method with 17 target PAH analytes.
4. PCB analyses by EPA Method 8082.
5. PAH and PCB analyses only required if damp-proof coatings present.

TABLE 2

Applicable BUD Reuse Standards
Use of Crushed Painted Brick Rubble
as Interior Road Building at Landfill

ANALYTE	STANDARD (mg/kg)
Arsenic	40
Cadmium	80
Total Chromium	1000
Total Lead	2000
Total Mercury	10
PAHs – Total	100
PCBs	2

Notes:

1. Standards are from MassDEP Policy COMM-97-001, Table 1.
2. PAH analyses by EPA Method 8270 or MADEP EPH Method with 17 target PAH analytes.
3. PCB analyses by EPA Method 8082.
4. PAH and PCB analyses only required if damp-proof coatings present.